**How New Technologies Have (and Have Not)**

**Changed Teaching and Learning in Schools**

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One of the most important time-savers for educators is to know what is possible, and what is not. In the scheme of things, wasting time with failed innovations not only wastes precious tax dollars but also wastes precious learning time for students. It is not surprising that research shows the most successful schools are the ones who use proven, best practices within a collaborative community, so that when successful (or unsuccessful innovation) happens, others can learn from those practices in a timely manner (Muhammad, 2010; PLC conference (DuFour, 2009)). Conversely, this paper could easily give many historical instances showing how many educational researcher’s and expert’s words are misinterpreted and/or tragically fail when applied to the real world of the classroom and learning. For instance, Howard Gardner has tried to address the vast misinterpretations and misapplications of his multiple intelligences theory for years (Gardner, 1995). According to Halverson and Smith’s (2009) article, “How New Technologies Have (and Have Not) Changed Teaching and Learning in Schools”, this has been the case when it comes to the application of technology in the classroom. In this article and in his 2010 speech, Halverson’s overview of the history of the expectations, hopes, and dreams regarding technology summarizes the same failures of technology in educational history.

Halverson & Smith (2009) and Muhammed (2010) explain that historically educators have been the gatekeepers to an elite set-of-information and have often held students to arbitrary standards in order to pass through to the other side. They both point to the advent of high stakes accountability, made possible by new uses of technology in a data-driven society, to an educational paradigm shift. Schools across the country have been held accountable for failures, and in the wake of this accountability, some of the country’s most disadvantaged schools have surpassed some of the country’s advantaged schools.

How can this happen? Halverson (2010) says that the locks to the knowledge kingdom have been changed, learning has changed, and schools need to adapt or else. In addition, Halverson explains that the proper use of technology is one of the keys to unlocking that kingdom for students and the survival of public education.

So, how must schools adapt in order to survive? First good problem solvers must correctly assess the present information and problems. If the use of technology is the key, we must correctly evaluate the uses of technology. Halverson and Smith (2009) categorize technology into two types, technology for learning and technology for learners. They go on to define technologies for learning as “teaching technologies structured to reliably deliver and measure outcomes regardless of the context or the situation of the learner” and technology for learners as technologies that “put the learner in control of the instructional process. Learning goals are determined by the learner, and the learner decides when goals are satisfied and when new goals are in order” (p 6).

According to Halverson (2010), technologies that provide data and those that enhance the delivery in the classroom are examples of technology *for learning*, and are teacher tools, like interactive whiteboards and document cameras. While technologies *for learners* emphasize information resources, such as search engines, Wikis and blogs, that allow for information retrieval, browsing, incidental learning and participation. Technologies for learners include programming and visualization tools…(and)technologies for learners are notoriously unreliable for producing anticipated results. More often, such technologies divert learning from its original goals, sometimes providing new goals, but other times simply thwarting any particular learning outcome (Halverson & Smith, 2010, p 6).

According to this article, it is impossible to predict what *will* happen with technologies in education, but it does point out that what *continues* to happen is that educational institutions have successfully adopted technology to largely continue the status quo with little significant changes in the educational paradigm. Halverson claims that if we do not start to use technologies for learners, they will continue the current trends and disengage for the classroom and do their learning outside of school and without the guidance of educators and further into the hands of the entertainment industry and the other aspects of our society.

For me the impact of this information is that we need to pay attention to what works (not failed promises), honestly share so that we learn from each other, and continue to work towards the type of learning that will give our students the tools for the future. The impact of the understanding that happens when I apply the idea of technology for learning versus technology for learners is huge for me as a teacher of gifted learners. While many of the gifted students might be more comfortable with traditional teaching that uses technology as a tool for learning, I have thought (and now I have some backup), that this is a key to differentiating and setting appropriate expectations for our 21st century students.

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